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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/651,115	08/28/2003	Keith D. Mease	TN285	7863

7590 06/01/2005

Unisys Corporation  
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EXAMINER

PAPE, ZACHARY

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 06/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/651,115	MEASE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Zachary M. Pape	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Jeffries et al. (US 5,815,371). With respect to claim 1, Jeffries teaches the use of a heat sink (24) configured to support an edge of a circuit card (14), said heat sink comprising: a thermally conductive base (26, 28, 30); a plurality of thermally conductive heat dissipating fins (36a, 36b, 36c) extending from said base; and one or more recesses (40) at least partially defined by at least one of said fins or by said base, said one or more recesses being configured to support the edge of the circuit card (14).

With respect to claim 3, Jeffries et al. further teaches that the one or more recesses (40) are further configured to support the edge of the circuit card (14) in sliding association with said heat sink (The heat sink of Jeffries et al. could be slid off the card (14) in a lateral motion if desired).

With respect to claims 4 and 11, Jeffries et al. further teaches that the recess (40) is a slot configured to guide the edge of the circuit card during sliding movement of the circuit card (The recess would act as a guide in the event the user were to slide the heat sink onto or off of the board (14)).

With respect to claims 5 and 12, Jeffries et al. further teaches a face disposed opposite said fins, said base being configured to be mounted with said face abutting a heat-generating component (Internal face of 30 faces and abuts against heat-generating component (22), Column 3, Lines 35-37).

With respect to claim 6, Jeffries et al. further teaches that the recess is defined by the base (As illustrated in Fig 2, the recess (40) is formed within the base (28) and therefore is defined by the base).

With respect to claim 7, Jefferies et al. further teaches that the recess is defined by one or more of said fins (As illustrated in Fig 2, the recess (40) is defined at least partially by the fins (36a) since the depth of the recess (40) is dictated by the fins (36a) above).

With respect to claim 8, Jefferies et al. further teaches that the recess (40) has a depth smaller than the length of said fins (As illustrated in Fig 2, the depth of the recesses into the base (28) is miniscule in comparison to the length of the fins either vertically or longitudinally).

With respect to claim 9, Jefferies et al. further teaches that the fins are oriented substantially parallel to one another (As illustrated in Fig 2, the fins (36a) have fins which are orientated substantially parallel to one another. Additionally the groups of fins (36b, and 36c) are substantially parallel to one another).

With respect to claim 10, Jefferies et al. further teaches a method for supporting a circuit card (14) in a computer system, said method comprising the steps of: affixing in a computer system a heat sink (24) having a recess (40) configured to receive an edge

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of a circuit card; orienting the heat sink to position the recess to receive an edge of a circuit card; and positioning the edge of the circuit card in the recess (As illustrated in Fig 2).

With respect to claim 13, Jefferies et al. teaches that the heat-generating component (22) is mounted on a circuit board (14), and said affixing step comprises affixing the heat sink (24) with the recess (40) disposed opposite the heat-generating component (As illustrated in Fig 1, the top of the heat-generating component (22) is facing opposite the top edge of the card (14) and the recess (40)).

With respect to claim 14, Jefferies et al. further teaches that the circuit card carries at least one heat generating component (22), and said positioning step comprises thermally coupling the heat-generating component (22) to the heat sink (24) when the circuit card is positioned in the recess (Column 3, Lines 35-37, As illustrated in Fig 2).

With respect to claim 15, Jefferies et al. further teaches the use of a circuit board assembly comprising: a circuit board (14); a heat generating component (22) mounted on said circuit board; and a heat sink (24) thermally coupled to said heat generating component (Column 3, Line 35-37) and having a plurality of fins (36a, 36b, 36c) for dissipating heat, said heat sink defining a recess (40) for supporting and guiding an edge of a circuit card (14b,g; as illustrated in Fig 2)

With respect to claim 16, Jefferies et al. further teaches that the circuit card comprises an edge portion (14b,g) in sliding association with said recess.

With respect to claim 17, Jefferies et al. further teaches a connector (16) configured for electrically coupling said circuit card (14) to a computer system (Column 3, Lines 6-7), said recess (40) of said heat sink being oriented to guide said circuit card for coupling said connector to said computer system (As illustrated in Fig 2).

With respect to claim 18, Jefferies et al. further teaches a heat sink (24) guiding one or more circuit cards (14) and transferring heat from one or more heat-generating components (22), said heat sink comprising: a surface (26, 28, 30) defining one or more slots (40) configured to guide an edge of a circuit card (14); and heat dissipating fins (36a,b,c) thermally coupled to said surface, said heat sink being configured to provide a thermal path from a heat-generating component (22) to said fins via said surface (Column 3, Lines 35-37).

With respect to claim 19, Jefferies et al. further teaches a surface (30) disposed opposite said slots (40) and configured to be mounted in thermal contact with said one or more heat-generating components (Column 3, Lines 35-37).

With respect to claim 20, Jefferies et al. further teaches having a substantially constant cross-sectional shape (If a cross section were taken of any of the fins (36a,b,c), the shape would be substantially constant).

With respect to claim 21, Jefferies et al. further teaches a method for guiding a circuit board (14) in a computer system, said method comprising: positioning an edge portion of the circuit board (14b,g) in a recess (40) defined by a heat sink (24) of the computer system, thereby guiding the circuit board (As illustrated in Fig 2, the edge of the board (14) is placed in the recess (40) thus guiding the circuit board (14) both

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vertically above the connector (16) as well as horizontally into the remainder of the recess (40)).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jeffries et al. in view of Atkinson et al. (US 6,680,849). With respect to claim 2, Jeffries et al. teaches the limitations as disclosed in claim 1 above, but fails to teach that the heat sink is formed by extrusion. Atkinson et al. teaches the conventionality of using extrusion to form a heat sink. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the extrusion method as taught by Atkinson et al. to form the heat sink of Jeffries et al. since the initial costs of tooling for new extruded parts and the time to market is much lower than the cost of die-casting (Column 4, Lines 31-35).

***Conclusion***

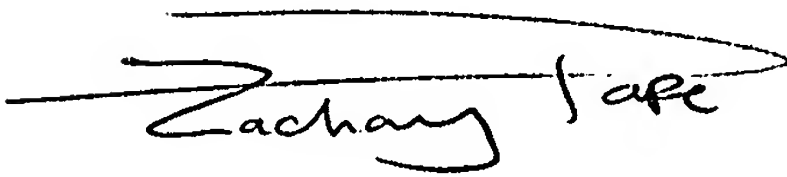
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-

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2201. The examiner can normally be reached on Mon. - Thur. & every other Fri.  
(8:00am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ZMP



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